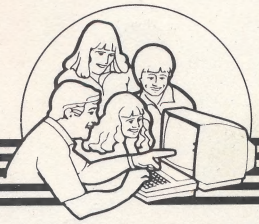
PERSONAL FINANCIER™



PERSONAL ENRICHMENT SERIES™

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1. Introduction

Before you ever save your first dollar using this collection of 21 PERSONAL FINANCIER problem solving programs, you can feel confident that you now have a significant edge in getting the most out of your very hard-earned money.

One glance through this manual or one attempt at performing a financial calculation will quickly convince you that absolutely no programming knowledge is needed to use the PERSONAL FINANCIER.

And that means you'll get accurate answers...quickly...with minimal effort...for important loans, investments, and business management calculations. PERSONAL FINANCIER performs the following calculations:

INVESTMENTS:

Future Value of an Investment
Initial Investment
Annual Interest Rate
Net Present Value of an Investment
Internal Rate of Return on an Investment
Regular Deposit
Future Value of Regular Deposits (Annuity)
Intrinsic Value of Common Stock
Intrinsic Value of Bonds

LOANS

Principal on a Loan
Regular Payment on a Loan
Last Payment on a Loan
Remaining Balance on a Loan
Term of a Loan
Annual Interest Rate on a Loan
Mortgage Amortization Table
Property Investment Cost Analysis
Mortgage Comparison Analysis

BUSINESS MANAGEMENT

Lease/Purchase Analysis (present value)
Tax Depreciation Schedule
Exponential Smoothing (bar graph)

Before you attempt to use any of these easy problem solving programs, please read the rest of this manual and review each example that is provided for you. Because all information appears on one screen, you can easily select each function and calculate your results —with just a few simple keystrokes. In just a few minutes you'll completely master this powerful, easy-to-use product. After your first session, it will seldom be necessary to refer to the manual because most of it is "on line."

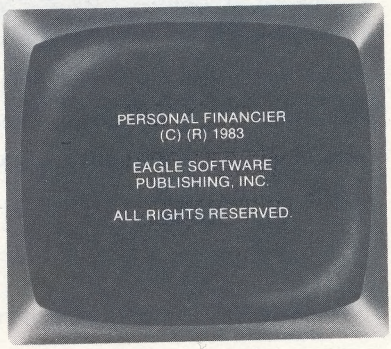
Wherever you see this symbol in the manual, it means that particular information is available for easy reference right on the computer screen.

2. Getting Started

In order to illustrate the start up procedure for "PERSONAL FINANCIER" we have provided a sample session. We suggest you follow right along on your machine step by step.

- Turn on printer (optional device) and align paper.
- If you have an Apple IIe or Franklin, make sure you press the CAPS LOCK key.
- Insert "PERSONAL FINANCIER" diskette into Drive 1 label side up.
- Turn on computer.

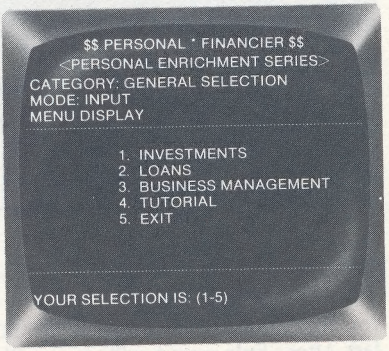
Result



press RETURN

The General Selection Menu

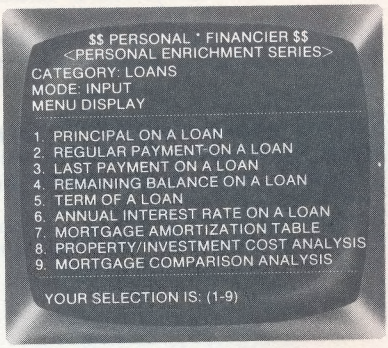
Result



From this point, you simply make a single key entry to display the chosen category. Example: 2 for Loans.

2

The Loans Menu


$$ PERSONAL * FINANCIER $$
<PERSONAL ENRICHMENT SERIES>
CATEGORY: LOANS
MODE: INPUT
MENU DISPLAY
1. PRINCIPAL ON A LOAN
2. REGULAR PAYMENT ON A LOAN
3. LAST PAYMENT ON A LOAN
4. REMAINING BALANCE ON A LOAN
5. TERM OF A LOAN
6. ANNUAL INTEREST RATE ON A LOAN
7. MORTGAGE AMORTIZATION TABLE
8. PROPERTY/INVESTMENT COST ANALYSIS
9. MORTGAGE COMPARISON ANALYSIS
YOUR SELECTION IS: (1-9)

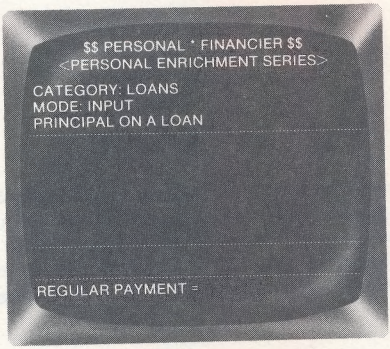
Again, make a single key entry corresponding to a specific LOANS program function.

Example: 1 for PRINCIPAL ON A LOAN.

Principal On A Loan Screen

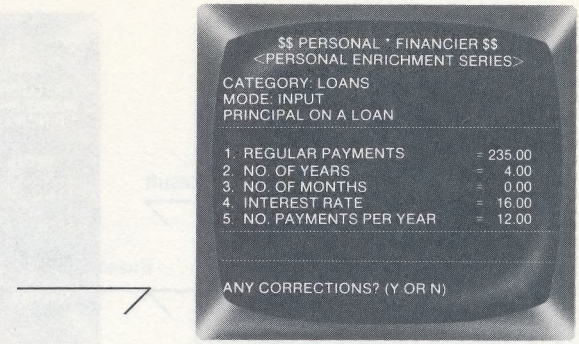
Result

First prompt for data.



You are now started in a typical "PERSONAL FINANCIER" program function —easy and fast. After a little more familiarity, it will take you less than 1 minute to get to this point in a "PERSONAL FINANCIER" function.

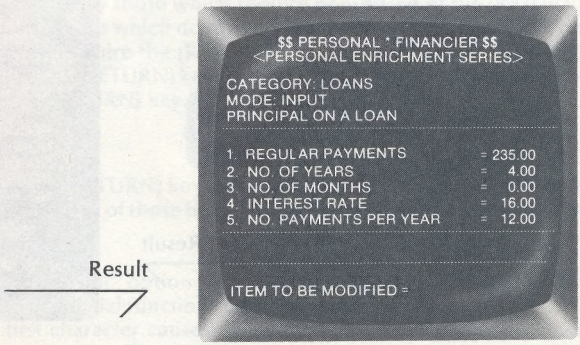
Respond to the prompts now using the sample data in the screen below.



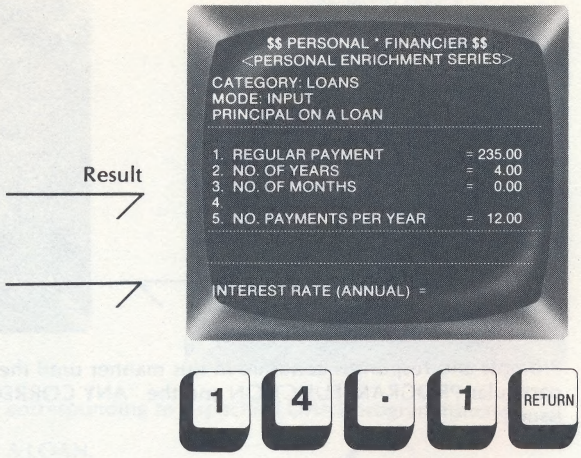
Prompts and responses continue in this manner until the last data field is entered for a particular PROGRAM FUNCTION and the "ANY CORRECTIONS? (Y OR N)" prompt is issued.

Y (Yes) response results in a prompt requesting "ITEM # TO BE MODIFIED".

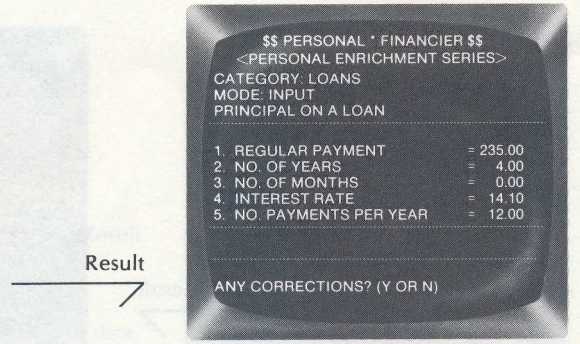
Result



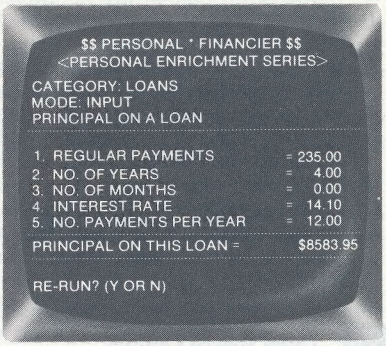
response results in the following screen with a blanked out area where the incorrect data appeared and a new "INTEREST RATE" prompt.



results in the INTEREST RATE being corrected as shown here and another "ANY CORRECTIONS? (Y OR N)" prompt.



N (No) response results in computation and display of the answer and a "RE-RUN? (Y OR N)" prompt.



Result

N (No) response results in return to the LOANS menu where you may select additional routines. Hitting the (P) key will print these results. Depression of the SHIFT, N keys will return you to the master selection menu.

3. Rules for Running PERSONAL FINANCIER

Entering Data

There are 2 kinds of user input, namely those which require depressing of the (RETURN) key following the input value and those which do not require the (RETURN) key. Black on white (REVERSE IMAGE) prompts require the (RETURN) key. White on black (NORMAL IMAGE) prompts do not require the (RETURN) key. In most cases prompts requiring a one character entry do not need the (RETURN) key

All data input values will require a (RETURN) key and numeric data is always expected. A non-numeric character entered in one of these fields will terminate the input value at that point.

A. Invoking a special input "Interrupt" option where the first character is an alphabetic or special character causes a special function to be triggered.
B. Entering an "R" as the first character causes the single value result of the previous functions executed to be automatically entered as the input value for the current data item. (See explanation of "Passer-Receiver" function in Section 5).
C. Depressing the (RETURN) key without inputting a value causes the value of the previous data item to be assigned to the current data item as well. This will save time when successive items have the same value.
D. Entering an arithmetic operator after a data value allows an immediate calculation to be performed before the input is recorded. The operators are "+" to add; "—" to subtract; "*" to multiply; "/" to divide. (i.e., 2150 * 12 will be recorded at 25,800 and will be shown thusly in the input display area. Note that only one operation per input item is allowed. You may also use this feature within the "R" option. (i.e., R * 52). See explanation of calculator function in Section 5.

Other input rules to remember:

1. All percentage values are entered as percents (not as hundredths — e.g. 5 & ¾% is entered as 5.75 not .0575).
2. Although the largest value for which the input display is formatted is 9,999, 999.99, a value larger than this will still process correctly.
3. Any item (such as # of periods) expected to be a whole number might appear with a decimal (i.e. 3.5) if entered thusly. However, the integer value is used in processing and subsequent input displays will show this.
4. Only 2 decimal places are shown on the input display screen, however, if more are entered the extended values will be used in processing.
5. The input display screen will "flip" to a new page after filling the display region. A chance to correct items on the current page will be given every time before a "flip" is made.

ON LINE **Using Special Options**

Six special input interrupt options are provided. These allow a special function to be performed, returning to the point of interruption (where applicable) after the special function has been completed.

These functions are invoked by entering a designated character as the first character of the input field. The functions are:

A. "T" - Call the applications tutorial for the current program function.
B. "D" - Display all input values entered thus far for this function. This is beneficial when the display region has been filled and screen "flips" are required. Previously entered screen pages can be inspected.
C. "S" - Starts input for this function all over again. All previous entries are erased and the input sequence for the current function is started again.
D. "N" - Cancel request for data modification.
E. "P" - Print the contents of the video screen on the line printer. This gets hard copy output for single value result functions. (Both input and output are printed.)
F. (Shift N) returns to the master menu. (Shift N) will be used occasionally again in the documentation to designate a return to the main menu capability. Just remember, push the SHIFT key *and* the N any time to return to the main selection menu.

NOTE: A SHIFT 6 must be used for the Apple IIe or Franklin.

ON LINE **Screens and Reports**

The results of "PERSONAL FINANCIER" functions are available in three output or display choices. They are 1) screen display only, 2) printed copy of the screen, and 3) tabular results which may or may not be printed as you choose.

This section is illustrated with keyed samples to quickly acquaint you with these concepts. You'll also find samples of the tabular reprints for your review.

For non-tabular output functions, output results will appear in the screen results region Ⓒ. If hard copy is desired, the "P" option can be invoked when the "re-run?" prompt is displayed. Ⓓ

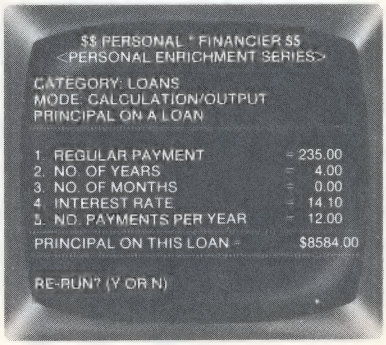
For tabular output functions, (E) a choice for printer output is presented. If you answer "Y" to this prompt (F) the input screen is first printed and then tabular data will be simultaneously output to both screen and printer. If "N" is answered to the printer output prompt, tabular output will be to screen only where output headings (G) will display on the screen while tabular data (H) is scrolled underneath in the screen display area. The output can be stopped at any time (and subsequently resumed) by depressing any keyboard character. However —if a "K" is depressed the function is aborted with a return to the master menu.

For line printer output, 55 lines per page will be advanced before a new page is started. Output headings will appear immediately following the input data and at the top of every page thereafter.

For the most part, dollar amounts will appear with 2 decimal places (in some cases, where appropriate, integer amounts only are output). Percentage output (I) results for non-tabular functions will always have 2 decimal places. All tabular output data will have 2 decimal places.

All tabular ouput data except counting items (i.e., month no., payment no., etc.,) will have 2 decimal places. When an integer value is calculated a decimal value of .00 will appear. Where appropriate, columns will be totaled.

If a tabular output value exceeds $9,999,999.99 all % signs will appear for the value to indicate this condition. You should rerun adjusting your inputs for precision (i.e., values in $100's instead of dollars). In most cases, and for all tabular output data, a maximum value of 9,999,999.99 has been allotted for dollar amounts and a maximum of 999.99% for percentages.



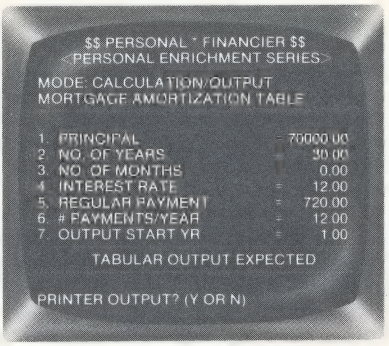
Ⓐ Banner Region

Ⓑ Display Region

Ⓒ Result/Answer Region

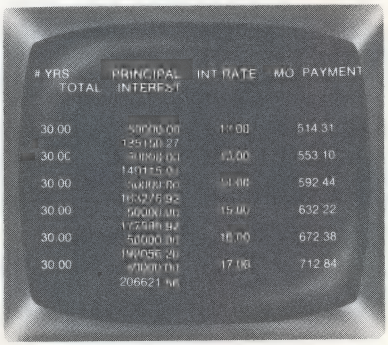
Ⓓ Input/Data Prompt Region

(Ⓔ-Ⓘ see page 9)



Ⓔ "TABULAR OUTPUT EXPECTED" Results/Answers region

Ⓕ "PRINTER OUTPUT? (Y OR N)" shown in Input/Output region.



Ⓖ Output headings

Ⓗ Tabular data

Ⓘ Percentage data

Sample Report

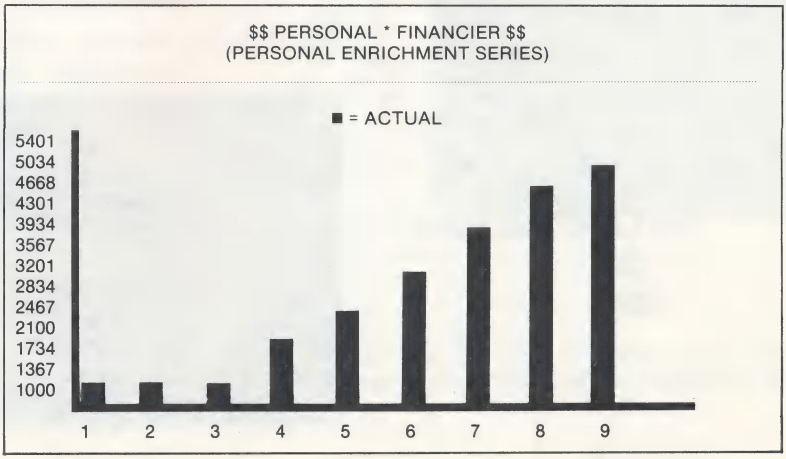
$$ PERSONAL * FINANCIER $$
(PERSONAL ENRICHMENT SERIES)
CATEGORY: BUSINESS MANAGEMENT
MODE: CALCULATION/OUTPUT
TAX DEPRECIATION SCHEDULE

1. ORIGINAL PRICE	=	100000.00
2. NO. OF YEARS	=	10.00
3. SALVAGE VALUE	=	0.00
4. DEPREC METHOD	=	1.00
5. YR. OF PURCHASE	=	81.00
6. PROPERTY CLASS	=	0.00
7. MONTH PURCHASED	=	0.00

ACRS ASSET NET DEP = 100000.00

YEAR	DEPREC	BALANCE
1981	8000.00	92000.00
1982	14000.00	78000.00
1983	12000.00	66000.00
1984	10000.00	56000.00
1985	10000.00	46000.00
1986	10000.00	36000.00
1987	9000.00	27000.00
1988	9000.00	18000.00
1989	9000.00	9000.00
1990	9000.00	0.00

Sample Bar Chart



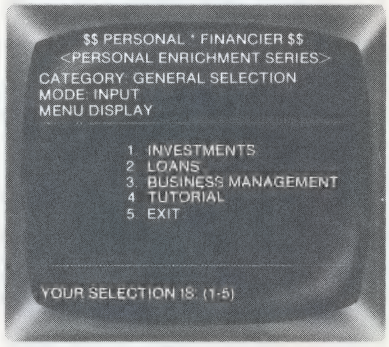
Bar Chart - The bar chart utilizes a series of rectangular "bars" and is used to emphasize the difference among individual items or elements of information.

Using the ON LINE Tutorials

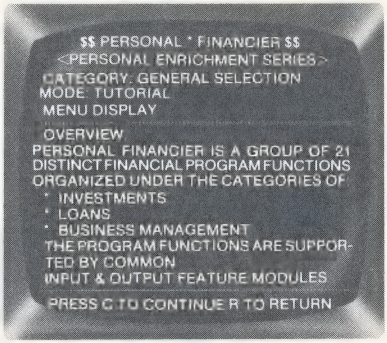
"PERSONAL FINANCIER" provides you with a very helpful aid, usually found only in applications designed for much larger computers. This aid is the TUTORIAL "mode" which allows you to display the most important instructional information right on your computer screen. This eliminates the need to frequently refer back to the manual.

From the master GENERAL SELECTION menu, the first menu you see when using "PERSONAL FINANCIER", you may select the TUTORIAL mode pertaining to information common to all program functions.

To illustrate, make the 4 key entry at this point to begin viewing the GENERAL SELECTION TUTORIAL screens.

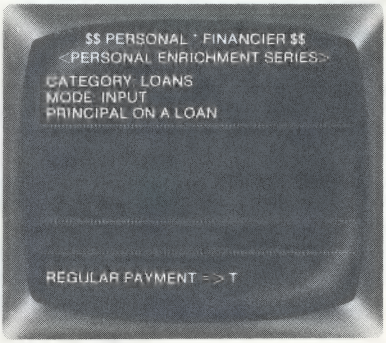


First General Tutorial Screen

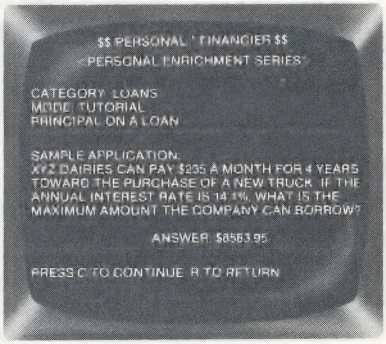

$$ PERSONAL * FINANCIER $$
<PERSONAL ENRICHMENT SERIES>
CATEGORY: GENERAL SELECTION
MODE: TUTORIAL
MENU DISPLAY
OVERVIEW
PERSONAL FINANCIER IS A GROUP OF 21 DISTINCT FINANCIAL PROGRAM FUNCTIONS ORGANIZED UNDER THE CATEGORIES OF:
* INVESTMENTS
* LOANS
* BUSINESS MANAGEMENT
THE PROGRAM FUNCTIONS ARE SUPPORTED BY COMMON INPUT & OUTPUT FEATURE MODULES
PRESS C TO CONTINUE R TO RETURN

Depression of the "R" key during the general tutorial will return you to the master menu.

Similarly, while operating any particular PROGRAM FUNCTION, you may request the TUTORIAL mode specific to that function. To illustrate you need only use T + (RETURN) keys at this point to view the "PRINCIPAL ON A LOAN" Tutorial.



T + (RETURN)


$$ PERSONAL * FINANCIER $$
<PERSONAL ENRICHMENT SERIES>
CATEGORY: LOANS
MODE: TUTORIAL
PRINCIPAL ON A LOAN
SAMPLE APPLICATION:
XYZ DAIRIES CAN PAY $235 A MONTH FOR 4 YEARS TOWARD THE PURCHASE OF A NEW TRUCK. IF THE ANNUAL INTEREST RATE IS 14.3%, WHAT IS THE MAXIMUM AMOUNT THE COMPANY CAN BORROW?
ANSWER: $8563.95
PRESS C TO CONTINUE, R TO RETURN

Example of one of the "PRINCIPAL ON A LOAN" Tutorial screens.

At this point, you may press (C) to continue through additional "PRINCIPAL ON A LOAN" Tutorial screens or (R) to "return" to the exact point where you left the "PRINCIPAL ON A LOAN" function as illustrated.

4. Program Functions

This section contains all information about the twenty one (21) separate functions within "PERSONAL FINANCIER". They are organized into three (3) subsections by CATEGORY as follows:

CATEGORY	PROGRAM FUNCTION	PAGE
INVESTMENTS	Future Investment value	14
	Initial Investment	15
	Interest Rate	15
	Net Present Value of an Investment	15
	Internal Rate of Return on an Investment	16
	Regular Deposits	16
	Future Annuity Value (Reg. Deposit)	16
	Intrinsic Value of Common Stock	16
	Intrinsic Value of Bonds	17
LOANS	Principal on a Loan	19
	Regular Payment on a Loan	19
	Last Payment on a Loan	19
	Remaining Balance on a Loan	19
	Term of a Loan	20
	Annual Interest Rate on a Loan	20
	Mortgage Amortization Table	20
	Property Investment Cost Analysis	21
	Mortgage Comparison Analysis	21
BUSINESS MANAGEMENT	Lease/Purchase Analysis (Present Values)	24
	Tax Depreciation Schedule	24
	Exponential Smoothing (Bar Graph)	25

Concept - Investment Functions

To get the maximum utilization of the "PERSONAL FINANCIER" package you should have some prior exposure to generally accepted financial concepts. In case you need a refresher though, we have categorized the Investment Functions into several broadly recognized financial concepts. Your review of each concept and the associated "PERSONAL FINANCIER" functions will enable you to easily apply the proper function to help you evaluate the investment opportunities at hand.

Concept - Compounding (Interest or Growth)

One of the most important and frequently used principles of investment theory is compounding. Compounding is simply the addition of interest earned on an asset in one investment period to the principal for the next investment period. This increases your principal, the basis of earnings, and the amount returned increases, often very significantly, period to period. You benefit from compounding because it increases the real rate of return on your investments.

The more frequent the compounding, the better your real or "effective" rate of return. All things being equal, you will want to look for investment opportunities with the most frequent compounding.

The "PERSONAL FINANCIER" Investment Functions using this concept are:

- Future Value of An Investment
- Initial Investment
- Effective Interest Rate On Investments
- Regular Deposits
- Future Value of Regular Deposits (Annuity)

Concept - Discounted Cash Flow

Another important concept used by "PERSONAL FINANCIER" is the "discounting" of cash flows. A discounted cash flow is simply the conversion of the value of your future cash receipts from investments to their value in today's dollars.

To understand discounting, consider the reason that $100 in hand today is worth more than $100 to be received three years from now. Why? Excluding the obvious consideration for inflation, the primary reason is that you can invest this $100 at a rate of return that will give you cash receipts worth more than the initial $100 three years from now.

The "PERSONAL FINANCIER" Investment Functions using this concept are:

- Net Present Value of An Investment
- Internal Rate of Return On An Investment

The following pages contain a brief explanation of each Investment function. For a general reminder on how to use any of the "PERSONAL FINANCIER" problem solvers, just refer to Getting Started (Section 2) in this manual.

For a thorough explanation on using a specific function, take advantage of the On-Line Tutorials that accompany each "PERSONAL FINANCIER" problem solver. Each tutorial will provide the following:

PURPOSE: a brief explanation of what the program function does.

SAMPLE APPLICATION: a hypothetical problem is posed in narrative form.

REQUIRED INPUTS: the necessary numeric data which must be entered.

CONSIDERATION: any special conditions, constraints or assumptions affecting the program function.

SAMPLE RESULTS: the problem posed in the SAMPLE APPLICATION is illustrated in the form of a completed screen when you have finished entering all data and computed the results.

For a detailed explanation of the On-Line Tutorials, refer to USING THE ON-LINE TUTORIALS (Section 3) in this manual.

ON LINE **FUTURE VALUE OF AN INVESMENT**

This function should be used to project the future total value of a single deposit investment. The total value is principal plus interest at the end of your investment period.

You can also use the function to determine the value of a purchased asset which you think will appreciate.

Appropriate Use Examples:

- Real estate
- Investment commodities
- Savings certificate
- One deposit savings account

INITIAL INVESTMENT

When you have a known investment value objective in mind for some point in the future, you use this function to determine how much you must invest or deposit now to reach the objective considering the effect of compounding. You might want to build up a savings certificate to a certain level two years from now to use as a down payment on a building.

Appropriate Use Examples:

- Any single deposit
- Savings certificate
- Savings account

ANNUAL INTEREST RATE

You will recall that compounding adds the amount earned in the previous compounding or investment periods to your principal for the next compounding period.

This function determines what effective interest rate you must seek to allow a given investment to grow to your desired goal.

Because of investment compounding, you can actually reach your goal with a nominal interest rate which is lower than the "effective interest rate" answer.

Appropriate Use Examples:

- Any single deposit and single withdrawal type investment when you know how much you have to invest and your end objective amount and need to know what effective rate you need.

NET PRESENT VALUE OF AN INVESTMENT

You will recall that the concept of discounted cash flow is to give you the current value of cash receipts you expect to receive in the future.

This function tells you if an investment opportunity meets your required rate of return objectives.

When the calculated answer, that is the "net present value", is a positive $ amount, the actual rate of return exceeds the required rate of return you entered. Thus, the investments would be attractive.

Appropriate Use Examples:

- To evaluate alternative investments to insure they meet your rate of return objectives.

  The investments may include multiple deposits and withdrawals.

ON LINE INTERNAL RATE OF RETURN ON AN INVESTMENT

You will recall that this concept determines the current value of cash receipts you expect to receive in the future.

"Internal rate of return" is another form of interest rate measurement. However, it is a special kind of measurement because it tells you if today's value of the future dollars you receive will be a sound investment when compared to the amount you must invest.

You compare the calculated internal rate of return (IRR) to the rate of return you require. If the IRR exceeds your requirement, it is a sound investment.

Appropriate Use Examples:

- Any investment with an initial deposit with or without additional periodic deposits and with a single or multiple receipt.
- A coupon type bond where you would enter each coupon receipt with the final coupon amount added to the "face value" to give the final receipt amount.

ON LINE REGULAR DEPOSIT

You will want to use this function when you have set a goal to reach a desired savings or investment account value by a certain time. The Regular Deposit function tells you how much your periodic deposit must be to reach your objective.

Appropriate Use Examples:

- Sinking fund calculations - the end amount required by a certain date is always known and the amount of the periodic deposit must be determined.
- Determining how much you must deposit each period to assure the account will reach your goal on time.

ON LINE FUTURE VALUE OF REGULAR DEPOSITS (ANNUITY)

You will recall that compounding adds the amount earned in the previous compounding period to the principal for the next period.

Use this function to determine how large your account will be after you have made a number of equal deposits. The future value will be the sum of deposits plus earned interest.

There can be no interim withdrawals from this type account.

Appropriate Use Examples:

- Determing the value at any point in the future of an annuity account.

ON LINE INTRINSIC VALUE OF COMMON STOCK

Common stock represents a residual interest in the income of a firm. Although the common stockholder is the owner of the enterprise, there exists no contractual obligation on the part of the firm to return any income or investment to its owners. The rate of return to the common stockholder consists of the dividend yield, if the firm pays dividends, plus the capital gain on the external sale of stock. The intrinsic value of a share of common stock equals the sum of the discounted dividends and the discounted selling price at the end of the investment horizon.

Appropriate Use Examples:

- Investment financing
- Common stock pricing
- Performance evaluation
- Number of shares for new issues

ON LINE INTRINSIC VALUE OF BONDS

As the owner of a bond, you receive interest (face value times coupon rate) while you hold the bond. At maturity, you receive the face value of the bond. If you sell or redeem it early, you receive the market value of the bond.

The intrinsic value of the bond, or what you would be willing to pay for the bond, is the sum of the two streams of money being paid to you from holding the bond. The first is the interest paid annually (annuity). The second is the lump sum of the face value of the bond. Both are discounted at the appropriate rate for investments of a similar risk.

Appropriate Use Examples:

- Investment financing
- Bond pricing
- Performance evaluation
- Amount of bonds required

Concept - Loans Functions

To improve your understanding of the LOANS functions, a brief description of various types of loans is provided primarily to contrast them with the installment loan. All "PERSONAL FINANCIER" functions involve the installment loan.

A "commerical note" is generally a short term loan which you repay with a single payment. It may or may not be secured by collateral. It may be a "discounted" or "non-discounted" loan.

With the "discounted" loan, your interest charge is subtracted from the face amount and you actually receive less than the face amount, but repay the face value.

With the "non-discounted" type, you receive the face amount and repay the interest plus face amount.

You will be dealing with non-discounted installment loans in your use of the LOANS functions.

Another key concept is that installment loans are repaid with a series of periodic payments. When the payments are in equal amounts, the loan is said to be "amortized". An "amortization schedule" shows you the principal portion and interest portion of your payments.

One of the disadvantages of installment loans is that you pay interest on the full amount of the loan while having use of an ever decreasing amount of money. This characteristic of course results in an effective interest rate which is considerably higher than the simple interest rate. The ANNUAL INTEREST RATE ON A LOAN function calculates the effective rate for you.

"Truth in Lending Laws" exist to help guide you, the prospective borrower, toward the best price when you are "renting money."

The laws do not require the lender to publicize everything you need to know to make a sound decision, but at least they require the "annual percentage rate" (APR) to be divulged in advertising statements. APR is the effective annual rate you will be paying.

As a responsible decision-maker, you must quickly discern if a particular loan is practical. "PERSONAL FINANCIER" can help you decide the type of financing to look for, as in this example:

Your company is expanding and wants to buy an additional warehouse. The budget allows for monthly payments no greater than $9000. Your banker is offering a financing rate of 14.5% for 20 years. Using the problem-solver **Mortgage Comparison Analysis,** you can determine what principal amount will be available to you if using 100% financing in acquiring the site.

You can use this to determine what price range you can look at for the warehouse. Perhaps you will have to raise capital for a down payment.

If you find a business property that suits your needs, you'll want to analyze all the costs associated with it - in addition to principal and interest. There are real estate taxes, insurance, maintenance and utilities to cost in. By giving these costs to the problem-solver **Property Investment Cost Analysis,** you'll get a picture - fast - of your total monthly and annual expenses. Compare these figures to your budget to see their impact.

One way to think of decision making is that it is the "art of measurement." A successful decision maker is one who knows which "yardsticks" to use and how to use them appropriately.

The following pages contain a brief explanation of each Loans function. For a general reminder on how to use any of the PERSONAL FINANCIER problem solvers, just refer to Getting Started (Section 2) in this manual.

For a thorough explanation on using a specific function, take advantage of the On-Line Tutorials that accompany each PERSONAL FINANCIER problem solver. Each tutorial will provide the following:

PURPOSE: a brief explanation of what the program function does.

SAMPLE APPLICATION: a hypothetical problem is posed in narrative form.

REQUIRED INPUTS: the necessary numeric data which must be entered.

CONSIDERATION: any special conditions, constraints or assumptions affecting the program function.

SAMPLE RESULTS: the problem posed in the SAMPLE APPLICATION is illustrated in the form of a completed screen when you have finished entering all data and computed the results.

For a detailed explanation of the On-Line Tutorials, refer to USING THE ON-LINE TUTORIALS (Section 3) in this manual.

ON LINE PRINCIPAL ON A LOAN

Suppose you have done a cash flow analysis and have determined that your company can afford to make a certain monthly payment on a new truck. You can get a loan at an annual rate of 14% and choose to pay off the truck in four years.

Your only remaining question is how expensive a truck you can get under the monthly payment restraints of your cash flow.

This function will determine the principal or amount you can afford to borrow for the truck and thus guide your selection of trucks.

Appropriate Use Examples:

- Any purchase analysis where you know your periodic repayment capability and must determine how large a loan you can afford.

ON LINE REGULAR PAYMENT ON A LOAN

When you need to consider a loan of a known amount to finance a purchase, you can use this function to do a number of things to guide your choice of loan details.

For example, you can use a number of different variables to arrive at an acceptable (i.e., affordable) monthly payment amount.

Run the function once using a repayment period of two years to determine if you can afford the resulting monthly payment. The next run, vary the interest rate. The next time, use a repayment period of four years, etc.

Appropriate Use Examples:

- Any loan decision where you know how much you must borrow and need to determine what monthly payment you can afford.

ON LINE LAST PAYMENT ON A LOAN

Frequently the analysis of your present financial condition will require you to do some "what if" work on your present loans.

You can use this function to determine the last payment amount needed to liquidate a loan obligation regardless of how many payments have been made to date.

Appropriate Use Examples:

- Any analysis of present loans where you need to consider liquidating the loan with current cash or refinancing it at a more favorable interest rate.

ON LINE REMAINING BALANCE ON A LOAN

In analyzing your present financial condition, you will occasionally need to determine the extent of remaining loan obligations.

For example, in any situation where you must discuss your financial situation with outsiders such as loan officers, lawyers, security analysts or government agents, they may require detailed information about your outstanding obligations.

A loan is, of course, a payment obligation which affects your financial strength. This function determines the amount of the obligations left unsatisfied.

Appropriate Use Examples:

- Any case where you must determine remaining loan obligations.

ON LINE TERM OF A LOAN

As you are no doubt aware, there are a variety of loan durations or maturities (term) available.

Normally the term or duration will vary depending on the size of the loan. It may of course be influenced by the property bought with the loan proceeds if the property is used as collateral. The collateral will be expected to last as least as long as the loan duration.

You would use this function to determine how long your repayment obligation will run on on a loan where the principal, interest rate, and monthly payment amounts are known.

Appropriate Use Examples:

- In any situation where long range financial planning involves knowing when various existing or anticipated loans will expire.

ON LINE ANNUAL INTEREST RATE ON A LOAN

This function will aid you in determining the best, i.e., least costly means of financing a purchase.

If there are no extra charge items beyond the interest rate itself, you will be calculating the "annual percentage rate" or (APR).

Often, however, the cost of credit or borrowing involves several other factors. Things like loans fees, finder's fees, service charges, points, or even life insurance premiums to secure the loan.

You can reduce the entire potentially complex situation into an annual rate simply by using this function to include all related costs. The resulting (calculated) rate will permit you to evaluate the true cost of alternative sources.

Appropriate Use Examples:

- Any analysis requiring the evaluation of complex financing alternatives where a true APR will guide you.

ON LINE MORTGAGE AMORTIZATION TABLE

You will find this function extremely helpful in long range financial planning because the function calculates much more than just your remaining loan obligation picture.

For example, it will tell you how much interest will be paid in each year. From there you can determine the value of that future tax deduction on your projected earnings for the year.

While the name of this function might imply that it is intended for evaluating real estate mortgages, the function can be applied to any type of installment loan.

Appropriate Use Examples:

- Financial planning where you need to know your loan position at any point in the future. Determining your obligations to creditors, cash flow requirements, or interest payments as a tax deductible expense for a future period.

ON LINE PROPERTY INVESTMENT COST ANALYSIS

When acquiring a business property, in addition to the monthly payment to amortize a loan — which includes both the principal and the interest — there are a number of other expenses to consider: annual taxes, annual insurance, annual maintenance and monthly utilities. To obtain a complete cost analysis, you must include all costs that are necessary to the operations of the property. This problem solver will step you through those questions and compute a total cost much faster than a calculator could.

Appropriate Use Examples:

- Budgeting
- Investment Analysis
- Mortgage Analysis

ON LINE MORTGAGE COMPARISON ANALYSIS

The monthly payment and the total interest expense for a mortgage are predicated upon three factors:

1. The amount borrowed.
2. The interest rate.
3. The length of time the money is borrowed.

This function permits one of these three factors to be varied and produces a report for you to use in comparing financial alternatives.

Appropriate Use Examples:

- Mortgage comparison
- Loan analysis
- Budgeting

Concept - Business Management

The "PERSONAL FINANCIER" Business Management functions are categorized into several broadly recognized management concepts which are discussed in the text which follows.

Your review of each concept and the associated "PERSONAL FINANCIER" function(s) will enable you to easily apply the proper function to help guide you in making sound business decisions.

As you probably know, "The Economic Recovery Tax Act of 1981" provides for a simplified and favorable new depreciation method called the "Accelerated Cost Recovery System" (ACRS).

To give you the ability to use this new method for your investments that qualify, ACRS has been included as one of the options in the TAX DEPRECIATION SCHEDULE function.

Concept - Lease vs. Purchase Decisions

Your company is considering the acquisition of new plant equipment. You have already done the cash flow analysis to determine that acquiring the asset is a good business decision. The next question is, should you lease or buy this asset.

Some arguments in favor of leasing are:
— Financing 100% of the asset.
— Payments are 100% tax deductible as ordinary expenses.
— It conserves borrowing capacity.
— Reduces investments in fixed assets.
— Shifts risk of obsolesence to lessor.

Some arguments in favor of purchases are:
— Lower ultimate cost - especially if you anticipate lease renewal.
— Gain the terminal salvage value advantage - especially where asset appreciates.
— New accelerated depreciation laws are more liberal.
— Interest payments on the asset loan are 100% tax deductible as ordinary expense.
— Investment tax credit (ITC) applies.

Concept - Depreciation

Many companies have assets which were acquired prior to the enactment of the ACRS regulations. Since most asset schedules will have both "before and after" calculations (before ACRS and after) we will discuss both the old depreciation methods and the new.

Depreciation is an incentive for you to acquire, by purchase, capital assets. It reduces taxable earnings. It also quite correctly recognizes the fact that most products wear out or otherwise lose value with use or age. Depreciation is an equitable way of apportioning this type of business expense over this useful life of the asset.

You can only depreciate purchased assets and then by not more than their original cost — regardless of current market or replacement value. It is a process of allocation not valuation.

You are normally better off trying to depreciate the asset 100%. That is, end up with a $0.00 salvage value. If such a fully depreciated asset is disposed of at a price, the difference between the salvage or book value of $0.00 and the selling price has to be treated as taxable earnings.

A variety of new depreciation methods exist. This manual will not attempt to advise you on which of your assets qualify for the new ACRS method approved by "The Economic Recovery Tax Act of 1981". However, the ACRS method is included as one of your options in the "Tax Depreciation Schedule" function.

Here is additional information on the traditional methods of depreciation.

Straight line - same $ amount depreciable each year.

Sum of Years Digits - One of the accelerated methods devised by adding up all the digits that represent the depreciable years. This gives you a fraction (%) to apply to the purchase price each year to get the yearly depreciation.

Example - A 5 year life on a $10,000 asset.

Year	Fraction	Depreciation
1	5/15	$3333.33
2	4/15	2666.67
3	3/15	2000.00
4	2/15	1333.33
5	1/15	667.67
15	15/15	$10,000

Declining Balance - One of the methods devised by applying a fixed rate each year to the net asset balance. There are several rates approved under qualified conditions. 150%, 175%, and 200% are typical. You eventually switch to straight line depreciation because it allows greater depreciation in later years. "PERSONAL FINANCIER" makes this calculation for you.

Accelerated Cost Recovery System (ACRS) - This accelerated method replaces other depreciation methods used for assets placed in service in 1981 or later. The ACRS method contains many tax law changes. You should seek sound professional advice on how the new rules specifically affect your business.

Briefly, property is placed in one of 4 classes which determines the years of depreciable life. A percentage table is set up for each class and provides the allowable % applied to each year.

The table, applied to assets put into service from 1981-84, approximates the results of using 150% declining balance with half year convention and switch to straight line.

The 1985's table approximates the results of 175% declining balance and switch to sum of years digits.

For assets placed in service after 1985, the table approximates the results of 200% declining balance and switch to sum of years digits.

The ACRS method is one of the options in the "Tax Depreciation Schedule" function. The appropriate % tables are built into the function.

Concept Graphs

The phrase "a picture says a thousand words" is an accurate description of the reason why managers like graphs. Too much detail...too many numbers...There's not enough time to absorb it all . . . are phrases familiar to most managers. Graphs address this problem because they take large quantities of numbers and "paint" a picture for the executive. An upward trend in sales or a rapid and sharp rise in operating expenses are readily discernible when graphed. They may not be so visible when "locked" up in "stacks" of monthly reports.

"PERSONAL FINANCIER" gives you the ability to distill information into "pictures" you can use to give greater insight into problems, or to better communicate all the reasons why you've chosen a certain course for your organization.

The following pages contain a brief explanation of each Business Management function. For a general reminder on how to use any of the "PERSONAL FINANCIER" problem solvers, just refer to Getting Started (Section 2) in this manual.

For a thorough explanation on using a specific function, take advantage of the On-Line Tutorials that accompany each "PERSONAL FINANCIER" problem solver. Each tutorial will provide the following:

PURPOSE: a brief explanation of what the program function does.

SAMPLE APPLICATION: a hypothetical problem is posed in narrative form.

REQUIRED INPUTS: the necessary numeric data which must be entered.

CONSIDERATION: any special conditions, constraints or assumptions affecting the program function.

SAMPLE RESULTS: the problem posed in the SAMPLE APPLICATION is illustrated in the form of a completed screen when you have finished entering all data and computed the results.

For a detailed explanation of the On-Line Tutorials, refer to USING THE ON-LINE TUTORIALS (Section 3) in this manual.

ON LINE LEASE/PURCHASE ANALYSIS (present value)

This technique is an extension of the present value analysis concept. In this case, the concept is applied to the *costs* of alternative methods of acquiring an asset. Because it is a cost analysis, you will notice that the alternative with the *lower* value is the recommended method.

You are encouraged to take the recommendation of this function and further analyze it using the NET PRESENT VALUE OF AN INVESTMENT function to determine if the investment itself is justified from a return on investment perspective. That is, will it result in a positive ($+) cash flow when revenue or savings are compared to cost on a net present value basis.

Appropriate Use Examples:

- Any capital asset acquisition planning process.

ON LINE TAX DEPRECIATION SCHEDULE

You will find this function to be one of the most useful multi-purpose "PERSONAL FINANCIER" tools. It not only provides the traditional asset depreciation methods for tax purposes, but also the new ACRS method.

You are encouraged to independently research the ACRS method to make your own decisions regarding qualified assets.

The IRS ACRS tables are already built into this function. The tables assign all assets a $0 salvage value so you need not enter salvage value when using the ACRS option. The tables also have the effect of switching automatically from declining balance to straight line between 1981 and 1984 and from declining balance to sum of the years digits beyond 1985.

Appropriate Use Examples:

- When planning any capital asset acquisition, you will find this function particularly helpful in transferring depreciation schedules to the LEASE/PURCHASE analysis function.

EXPONENTIAL SMOOTHING (Bar Graph)

This forecasting technique uses both expected or "forecast" values and actual values gathered from the previous period to *forecast* a value for the current period.

The forecast for this period is determined to be the weighted and smoothed average of the preceding period's expected and actual values. The advantage of this method is that the forecasting method can be augmented by any new information contained in the actual value for the preceding period.

This technique allows you to adjust a forecast by a factor called a "smoothing constant." The range of the adjustment is from 0 to 1. Factors closer to zero, i.e., .25 will weigh the values toward the Forecast. Factors approaching 1 will weigh the values toward the actual.

Appropriate Use Examples:

- Sales forecasting
- Demand forecasting

5. Advanced Productivity Techniques

One of the major advantages "PERSONAL FINANCIER" offers you over similar products are several techniques which are meaningful short cuts to working more accurately and rapidly with the powerful "PERSONAL FINANCIER" functions.

These techniques fall into the following areas:

- Passer...Receiver Single answer technique
- Passer...Receiver Multiple answer technique
- Calculator technique

Expanding the explanation of these techniques we have:

1. Passer...Receiver Single Answer functions - Just like a quarterback in football, this technique allows you to use a "PERSONAL FINANCIER" function to compute an answer which is then automatically "passed" (transferred) to the "Receiver" function which needs this answer as one of its *required inputs*. The concept is much like using a "memory" key on a calculator.

   You simply run the function shown in the "Passer" column of the attached table first. Then you run the "Receiver" function. When the "Receiver" function prompts you for the answer supplied by the "Passer" function, simply hit R+(RETURN).

2. Passer...Receiver MULTIPLE ANSWER FUNCTIONS - This technique works very much like the previous feature except it saves even more time because it is capable of "passing" a long string of answers from "Passer" to "Receiver". This is a valuable tool when dealing with multiple cash flow periods or depreciation schedules.

NOTE: Although the "R" key will work with every function, some problems have a logical relationship with others. The table below outlines many of the time saving links between "PERSONAL FINANCIER" functions.

Passer Receiver Table

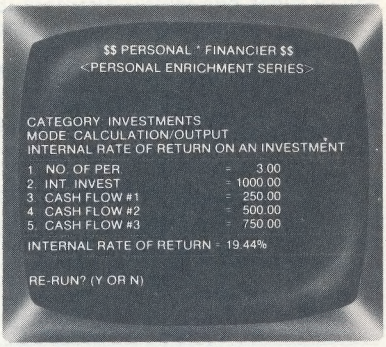
WHEN YOU WANT TO RUN — — — THIS ... FIRST RUN THIS — — — — —

"RECEIVER" PROGRAM FUNCTION	Depress R + RETURN when this prompt appears in this function..	"PASSER" PROGRAM FUNCTION	Comments only appear where needed to advise you of multiple options or other exceptions.
Investments			
EFFECTIVE INTEREST RATE ON INVESTMENTS	Initial Investment	Initial Investment	Select only one of the 2 Passer Functions.
	Final Total Value	Future value of An Investment	
NET PRESENT VALUE OF AN INVESTMENT	Rate of Return	Annual Interest Rate on Investments	Both Rate of Return and Cash Flows can be passed to N.P.V.
	Rate of Return Cash Flow #1	Internal Rate of Return on an Investment	
INTERNAL RATE OF RETURN ON AN INVESTMENT	Initial Investment	Initial Investment	Both Initial Investments and Cash Flows can be passed to I.R.R.
	Initial Investment Cash Flow #1	Net Present Value of an Investment	
Loans			
LAST PAYMENT ON A LOAN	Principal	Principal on a loan	Only one of the 3 passer functions May be used.
	Regular Payment	Regular payment on a loan	
	Interest Rate	Annual Interest Rate on a loan	
REMAINING BALANCE ON A LOAN	Principal	Principal on a loan	One of the 3 passer functions may be used.
	Regular Payment	Regular payment on a loan	
	Interest Rate	Annual Interest Rate on a loan	
MORTGAGE AMORTIZATION TABLE	Principal	Principal on a loan	Only one of the 3 passer functions may be used.
	Regular Payment	Regular payment on a loan	
	Interest Rate	Annual Interest Rate on a loan	
Business Management			
LEASE/PURCHASE ANALYSIS (PRESENT VALUES)	* Loan Payment R * 12	Regular payment on a loan.	Salvage value only applies to sum of year digits or declining balance. Only salvage value or regular payment may be used with tax depreciation schedule passer. Tax depreciation schedule automatically transfers all yearly depreciation.
	Dep. Amt. Yr. #1	Tax Depreciation Schedule	
BAR GRAPH	Value #1	Mortgage Comparison Analysis	Range of monthly payments transferred
TAX DEPRECIATION SCHEDULE	Salvage Value	Salvage Value	Do not use with ACRS. Salvage value only applies to sum of years digits or declining balance.

* Loan Payment is an annual amount so use the "calculator" here.

An illustration will be helpful in clearing up any doubts about using either the Single or Multiple Answer Functions Techniques.

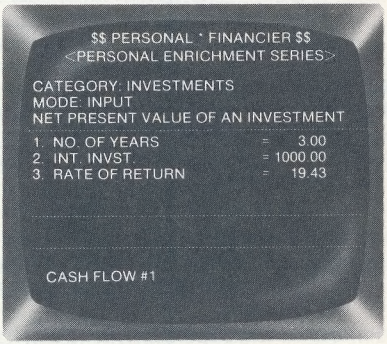
1st run "PASSER" function.

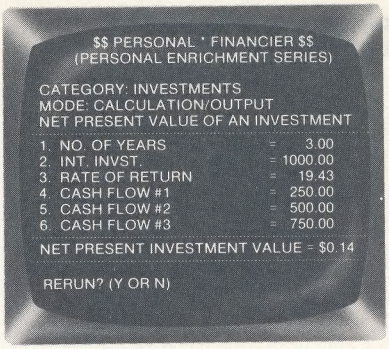


When you then want to do a NET PRESENT VALUE analysis on this same investment, run the "RECEIVER" function.

When you get this prompt Hit R & RETURN

Cash Flow #1



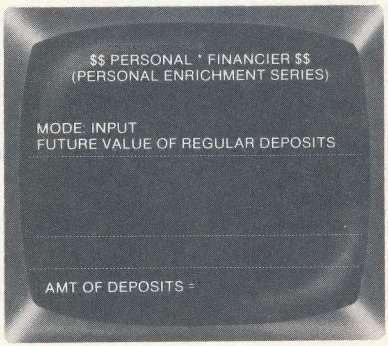

$$ PERSONAL * FINANCIER $$
(PERSONAL ENRICHMENT SERIES)
CATEGORY: INVESTMENTS
MODE: CALCULATION/OUTPUT
NET PRESENT VALUE OF AN INVESTMENT
1. NO. OF YEARS = 3.00
2. INT. INVST. = 1000.00
3. RATE OF RETURN = 19.43
4. CASH FLOW #1 = 250.00
5. CASH FLOW #2 = 500.00
6. CASH FLOW #3 = 750.00
NET PRESENT INVESTMENT VALUE = $0.14
RERUN? (Y OR N)

RESULT/ALL cash flows are automatically "passed forward to the receiving function" NET PRESENT VALUE.

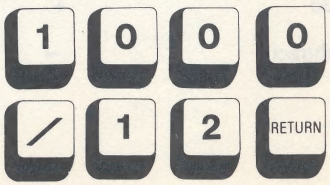
3. Calculator Technique * - Anytime you would have to use a calculator to determine the amount to enter into a REQUIRED INPUT, you may simply use this "PERSONAL FINANCIER" technique which we've built into your system.

   As an example, assume you are running the FUTURE VALUE OF REGULAR DEPOSITS (ANNUITY) function and are at the point where you get the AMT OF DEPOSITS prompt. You know you can afford $1,000 annually, but need to convert that to a monthly rate. When you get the prompt for amount of deposit, simply divide 1000 by 12 as follows:

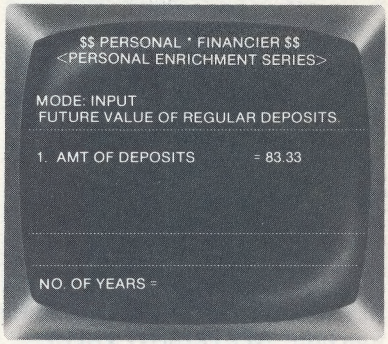
When you get this prompt



make these entries



Division is done automatically
by "PERSONAL FINANCIER".



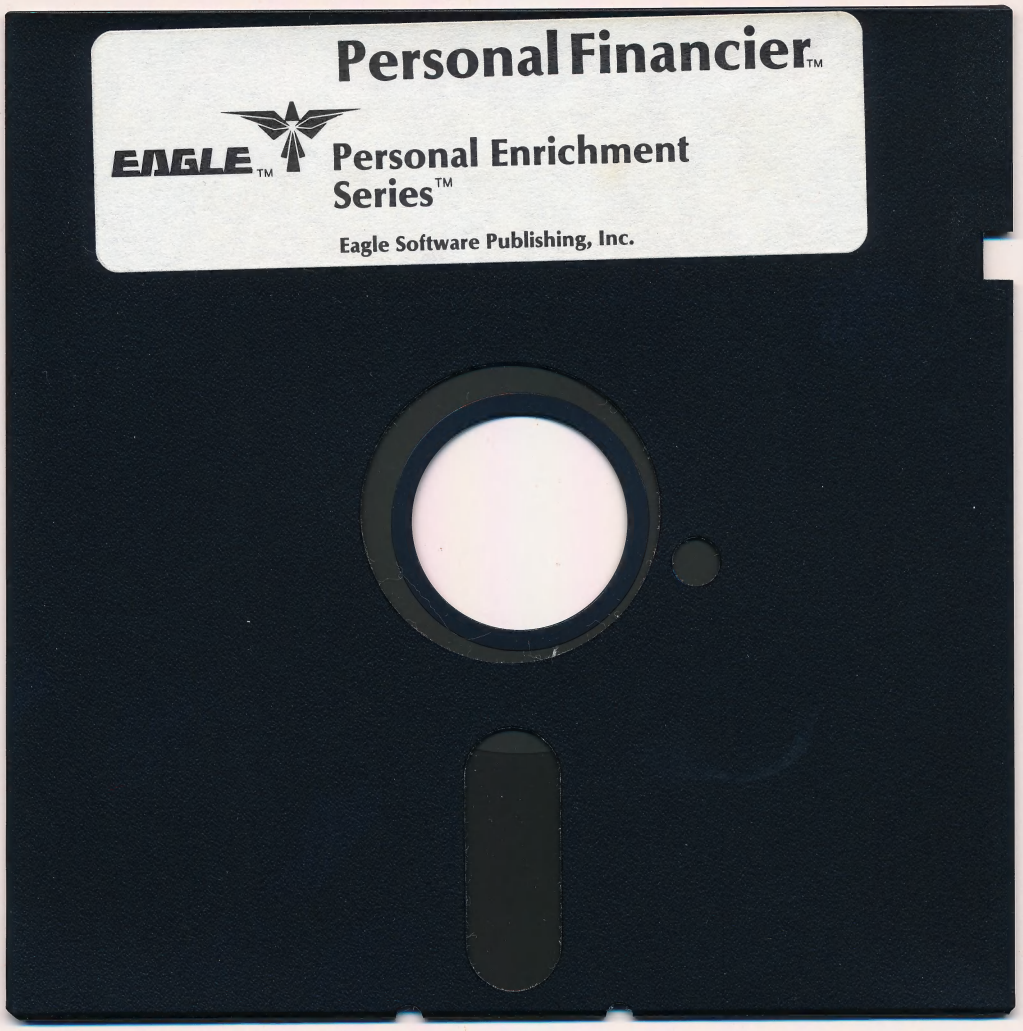
* The Calculator Technique is designed to perform a single operation.

NOTE: The keys you will use to work the calculator function are listed below as they appear on your Apple II typewriter keyboard:

Desired Function	**Symbol**	**Push These Keys**
Multiply	*	Shift, :
Divide	/	/ (No Shift Req.)
Add	+	Shift, ;
Subtract	—	— (No Shift Req.)

NOTE: If you have an Apple IIe or Franklin please use the correpsonding keys:

Desired Function	**Symbol**	**Push These Keys**
Multiply	*	Shift 8
Divide	/	/ (No Shift Req.)
Add	+	Shift =
Subtract	—	— (No Shift Req.)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